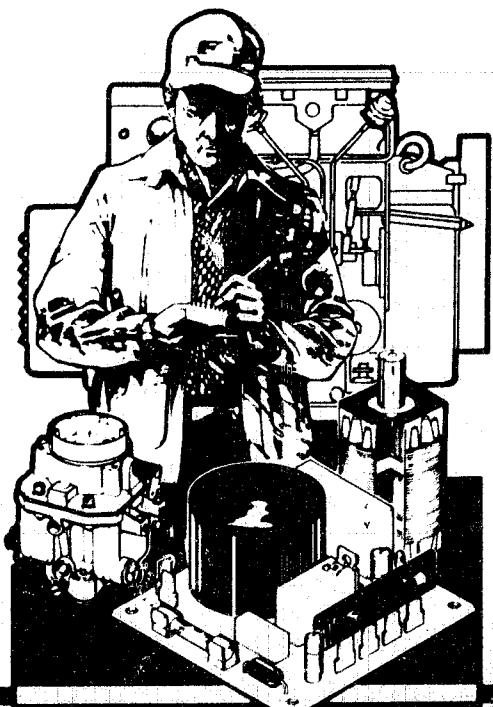


Onan

Parts Manual

ES

GenSet



Mobile Electric Generating Set

Onan Service Parts

928-0227
2-93 (Spec B-E)
Replaces 2-92 (Spec C-D)
Printed in U.S.A.

Index

Actuator, Governor 6
Adapter, Generator 10
Alternator - Spec B 11
Alternator - Spec C-E 12
Ammeter - AC 18
Arm, Alternator Adjusting - Spec B 11
Arm, Alternator Adjusting - Spec C-E 12

Belt, Fan 8
Box, Control 18
Bracket, Alternator Mounting - Spec B 11
Bracket, Alternator Mounting - Spec C-E 12
Bracket, Control mounting 18
Bracket, Engine Mounting 7
Bracket, Terminal (#26) 14
Breaker, Circuit 18
Bridge, Rectifier 18

Cap, Oil Fill 14
Cap, Pressure 8
Cap, Water Outlet Tube 14
Carburetor - Gasoline 4
Carburetor - LPG Vapor 5
Choke, Carburetor - Gasoline 4
Cleaner, Air 3
Cock, Drain - Radiator 8
Coil, Ignition 21
Control - Generator Set 18
Control, Governor 6
Cover, Control 18
Cushion, Vibration - Generator Set Mounting 7

Damper, Vibration - Control 18
Disk, Drive - Generator 16
Drain, Oil 14

Element, Air Cleaner 3

Fan 8
Filter, Fuel - Gasoline 4
Flywheel 10

Gauge, Coolant Temperature
 Generator Control Mounted 18
 Remote Control Mounted 20
Gauge, Oil Pressure
 Generator Control Mounted 18
 Remote Control Mounted 20
Generator 16
Governor 6
Grille, Air Outlet - Generator 10
Guard, Alternator Belt - Spec B 11
Guard, Alternator Belt - Spec C-E 12
Guard, Belt 8

Harness, Wiring - Control Box 18
Harness, Wiring - Engine to Control 18
Harness, Wiring - Ignition Module 21
Harness, Wiring - Remote Control 20
Heater, Tank - Engine Coolant 9
Hose, Oil Drain 14
Hose, Radiator 8
Hose, Water Bypass 14

Indicator, Oil Level 14
Kit, Carburetor Repair - Gasoline 4
Kit, Mounting Hardware - Generator Set 7

Lead - Starter to Relay 13
Linkage, Governor 6

Meter, Frequency 18
Meter, Time Totalizing
 Generator Control Mounted 18
 Remote Control Mounted 20
Module, Ignition 21
Monitor, Engine 18

Panel, Control - Remote 20
Petcock - Water Drain 14
Pipe, Exhaust 14
Plate, Mounting - Control 18
Plate, Rear Engine 10
Pulley, Alternator - Spec B 11
Pulley, Alternator - Spec C-E 12
Pulley, Fan 8

Radiator 8
Regulator - LPG Vapor 5
Relay, Solenoid - Pilot 18
Relay, Solenoid - Start 18

Sender, Oil Pressure 14
Sender, Water Temperature 14
Sensor, Speed - Magnetic 6
Shield, Dust - Distributor 21
Shroud, Fan 8
Solenoid, Fuel - Gasoline 4
Spacer, Fan 8
Standoff, Insulator - Control 18
Starter 13
Strap, Ground - Control 18
Support, Radiator 8
Suppressor, Ignition Coil 21
Suppressor, Voltage 18
Switch, Low Oil Pressure 14
Switch, Overspeed 16
Switch, Rocker
 Generator Control Mounted 18
 Remote Control Mounted 20
Switch, Thermostat 14

Thermostat 14
Transformer, Current 18
Transformer, Voltage Regulating 18
Tube, Air Inlet 3
Tube, Oil Fill 14
Tube, Oil Level Indicator 14

Valve, Shutoff - Oil Drain 14
Valve, Solenoid - LPG Carburetor 5
Voltmeter - AC 18
Voltmeter - DC
 Generator Control Mounted 18
 Remote Control Mounted 20

Introduction

This manual applies to the ES Mobile Generator Sets as listed in the Generator Set Data Table. Parts are arranged in groups of related items and each illustrated part is identified by a reference number corresponding to the same reference number in the parts list. Parts illustrations are typical. Unless otherwise mentioned in the description, parts are interchangeable between models. Throughout this manual left and right sides are determined by facing the engine end (front) of the set.

Engine parts that have been modified or added by Onan are identified in this manual. All other engine replacement parts must be ordered from the engine manufacturer by referring to the engine manufacturer's nameplate and supplying all available information. Contact your nearest engine parts dealer for assistance in ordering replacement parts.

Generator Set Data Table

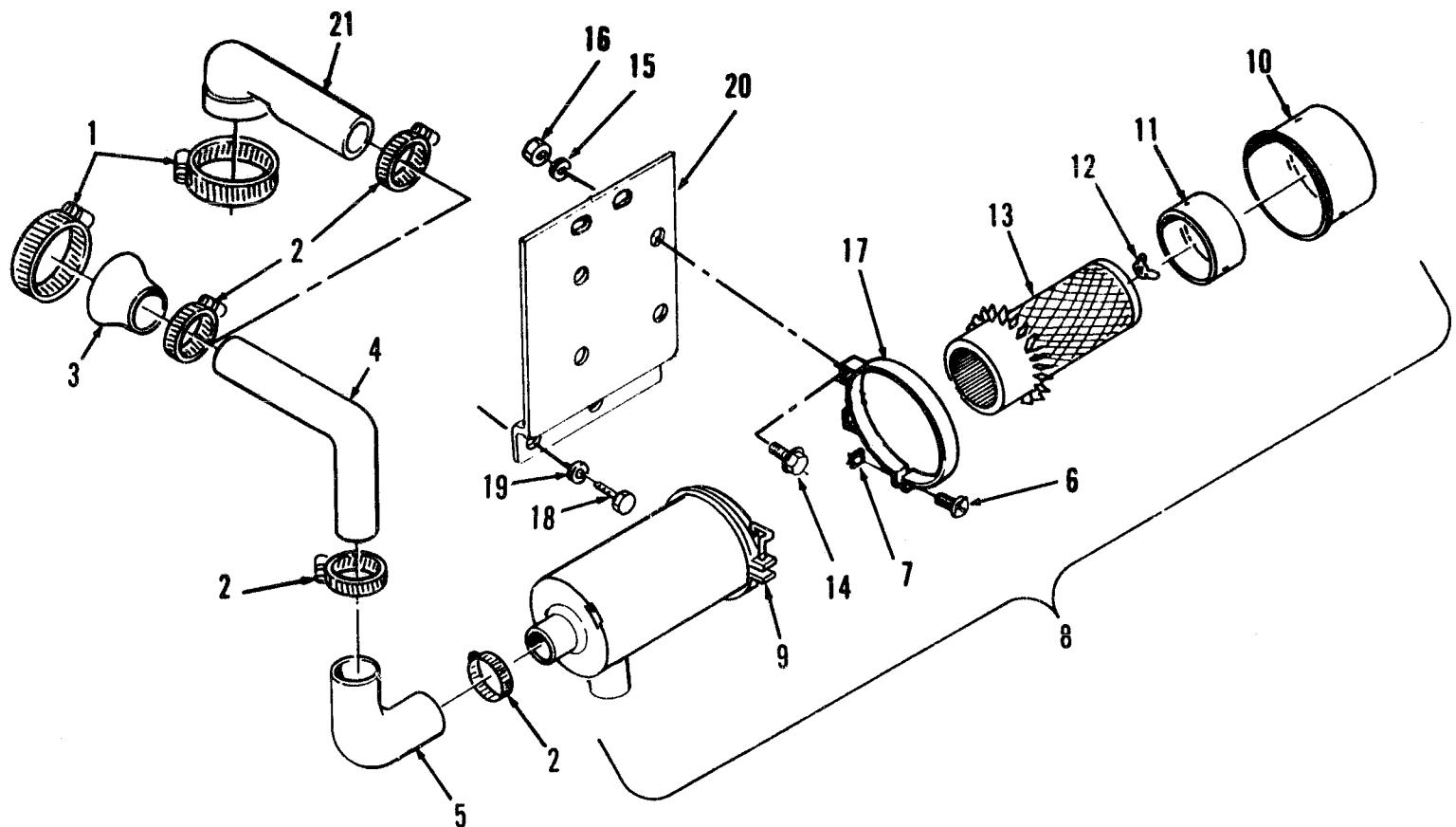
MODEL AND SPECIFICATION	ELECTRICAL DATA					FUEL USED
	WATTS	VOLTS	HERTZ	WIRE	PHASE	
20.0 ES-B/28981*	20,000	120/240	60	3	1	LPG
20.0 ES-B/29381*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30422*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30455*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30491*	20,000	120/240	60	3	1	GASO
20.0 ES-B/30575*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30611*	20,000	120/240	60	3	1	LPG
20.0 ES-B/30612*	20,000	120/240	60	3	1	GASO
20.0 ES-B/36287*	20,000	120/240	60	3	1	LPG
20.0 ES-B/38762*	20,000	120/240	60	3	1	LPG

* - The diagonal line (/) in the model and specification number separates generator set characteristics from the specification number and letter. The specification number denotes customer requested options or deviations from a standard (1A, 1B, etc.) non-mobile ES model. The specification letter advances (A to B, B to C, etc.) with major manufacturing changes. The letter "B" before the diagonal line is now used in the model to indicate the voltage code and replaces the corresponding number and letter designation of "3R" used on earlier models.

SPECIFICATION LETTER ADVANCE HISTORY

B to C	Alternator
C to D	Alternator
D to E	Starter

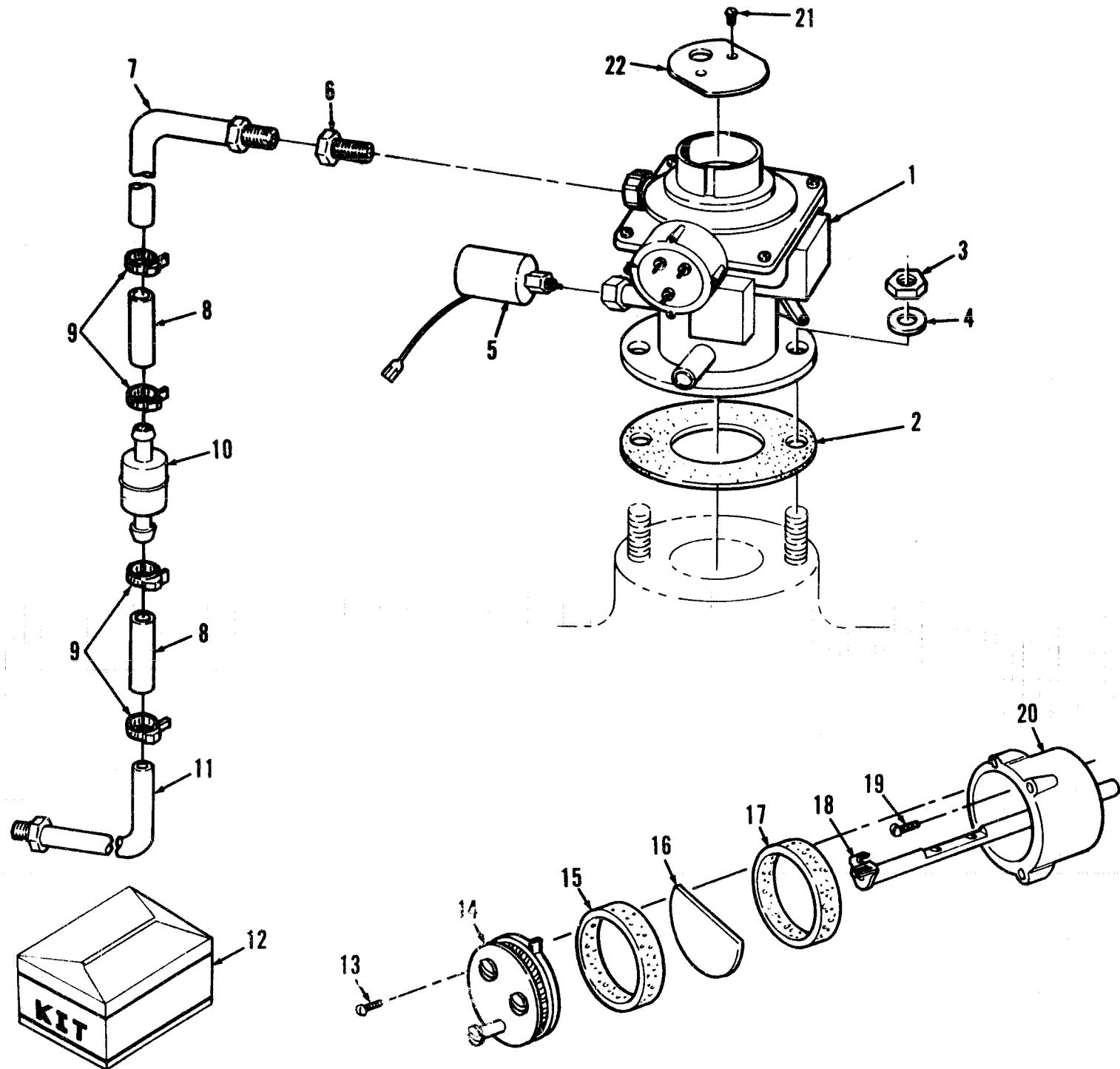
Air Cleaner



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0465	1	Clamp	11	140-1439	1	*Baffle
2	503-0365	3	Clamp	12	140-1436	1	*Nut, Wing
3	503-1074	1	Hose, Reducer - Used With LPG Carburetor	13	140-0765	1	*Element
4			Tube, Air Inlet	14	800-0026	4	Screw, Cap - Hex Head (5/16-18 x 3/4")
	140-2124	1	Used with LPG Carburetor	15	850-0046	4	Washer, Lock - Spring (5/16")
	140-2190	1	Used with Gasoline Carburetor	16	862-0015	4	Nut, Hex (5/16-18)
5	503-0419	1	Elbow, Hose	17	140-0722	2	Band, Mounting
6	812-0153	2	Screw, Machine - Round Head (1/4-20 x 1")	18	800-2085	2	Screw, Cap - Hex Head (M12 x 20MM)
7	861-0011	2	Nut, Square (1/4-20)	19	850-2010	2	Washer, Lock - Spring (M10)
8	140-0721	1	Cleaner Assembly, Air (Includes Parts Marked *)	20	140-1756	1	Bracket, Mounting
9	140-1437	1	*Clamp	21	140-1283	1	Elbow, Air Inlet - Used With Gasoline Carburetor
10	140-1438	1	*Cup				

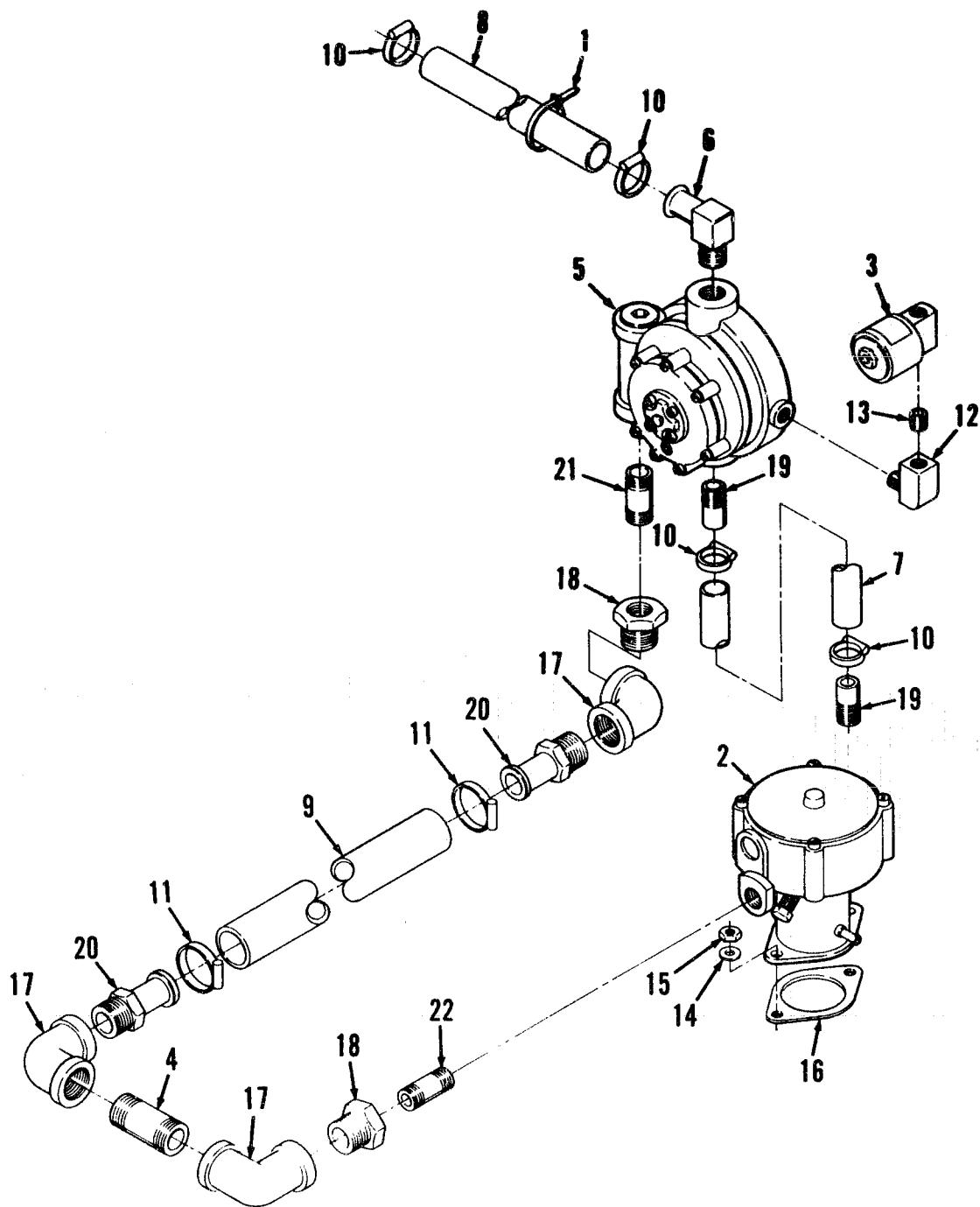
* - Parts Included in 140-0721 Air Cleaner Assembly.

**Fuel System
(Gasoline)**



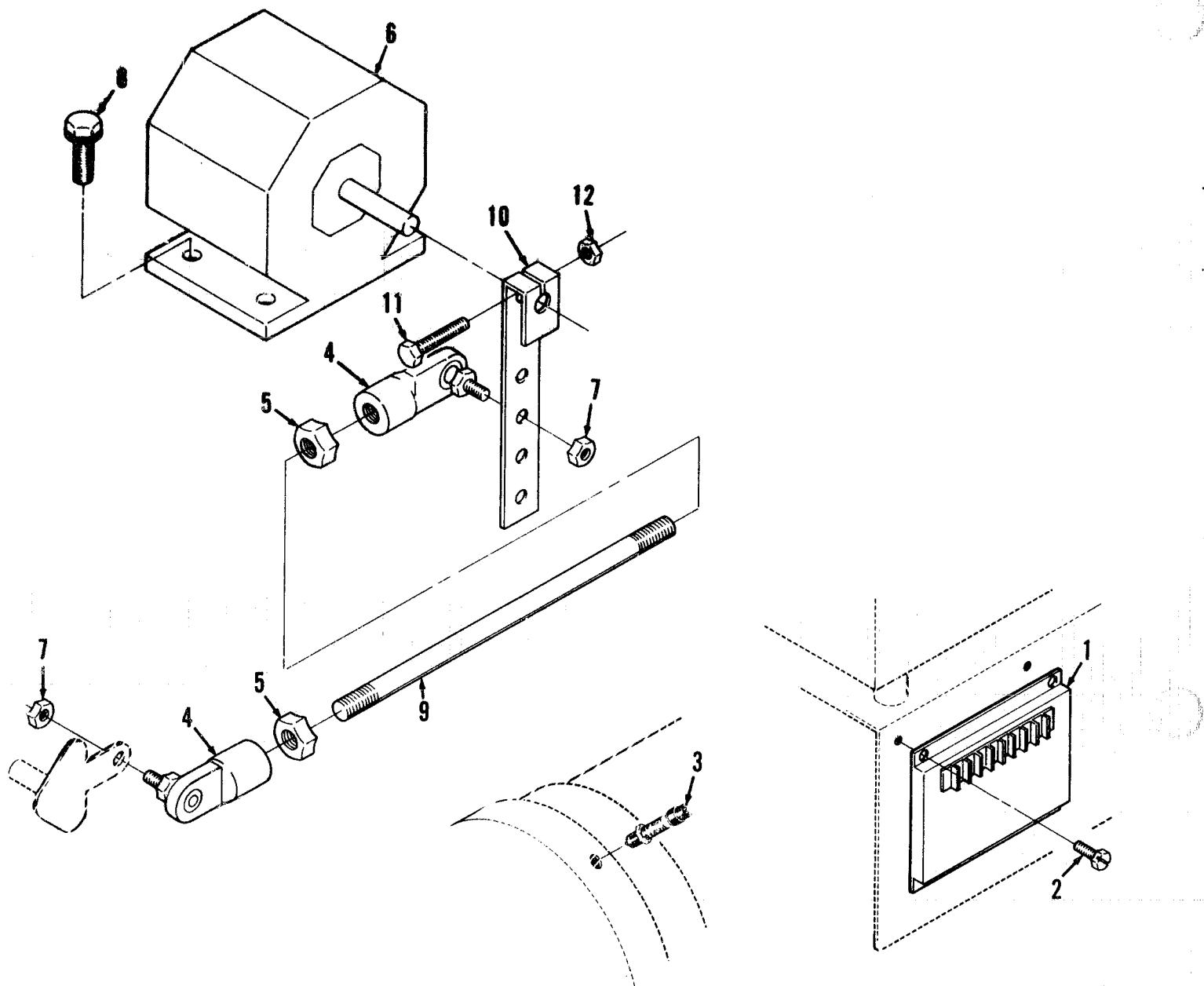
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	141-0953	1	Carburetor - Gasoline (Includes Fuel Solenoid and Choke Plate)	14	141-0911	1	Cover, Choke
2	145-0120	1	Gasket, Mounting - Lead	15	141-0909	1	Insulator, Cork (1/2" x 4")
3	860-2008	2	Nut, Hex (M8)	16	141-0905	1	Plate, Heat Sink
4	526-2100	2	Washer, Flat (M8)	17	141-0910	1	Insulator, Cork (1/2" x 5-9/16")
5	141-0951	1	Solenoid (K1)	18	141-0908	1	Shaft, Choke
6	502-0018	1	Connector, Inverted Male	19	815-0103	1	Screw, Machine - Fillister Head (#10-24 x 1/2")
7	149-1775	1	Line, Fuel - Upper	20	145-0544	1	Housing, Choke
8	503-0883	2	Hose, Fuel (5/16" ID x 2")	21	141-0906	2	Screw - With Lockwasher (#5-40)
9	503-0685	4	Clamp	22	141-0916	1	Plate, Choke
10	149-1774	1	Filter, Fuel				
11	149-1776	1	Line, Fuel - Lower				
13	813-0096	3	Screw, Machine - Round Head (#10-32 x 1/4")				

Fuel System
(LPG Vapor)



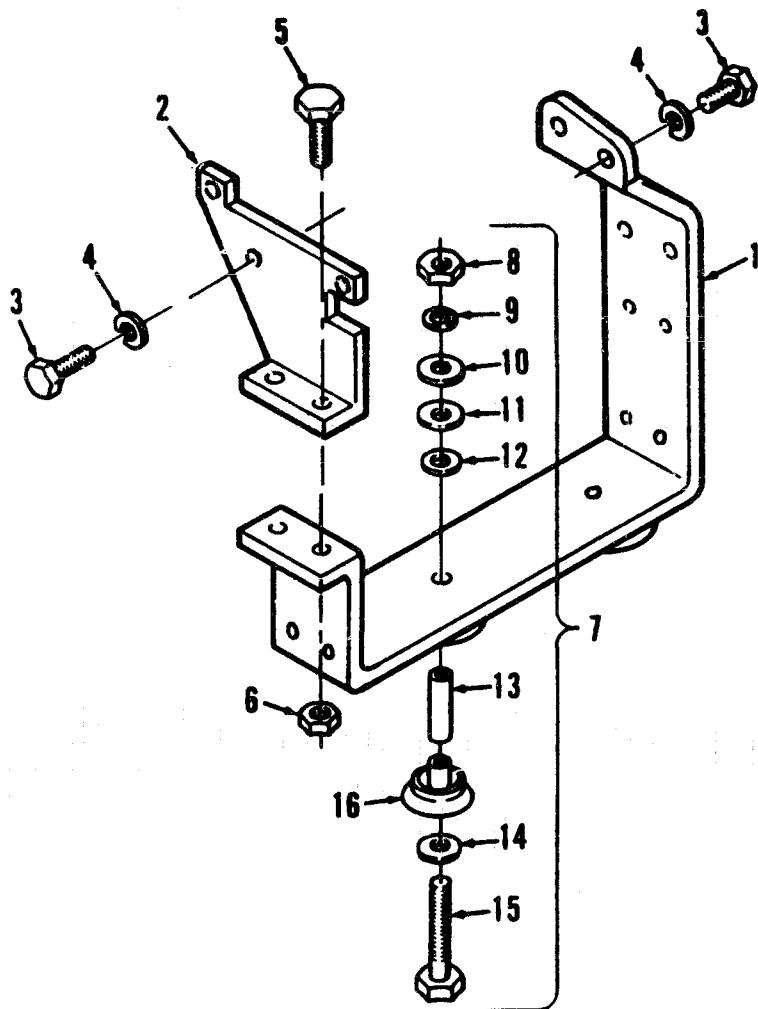
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	332-0941	1	Tie, Cable	11	503-0398	2	Clamp, Hose
2	148-0902	1	Carburetor (LPG Vapor) (For Component Parts Refer to Carburetor Manufacturer)	12	502-0054	1	Elbow - 90° (1/4")
3	307-0268	1	Valve, Solenoid (K1)	13	502-0047	1	Nipple, Close (1/4")
4	505-0085	1	Nipple, Pipe (3/4" x 2")	14	526-2100	2	Washer, Flat (M8)
5	148-0737	1	Regulator	15	860-2008	2	Nut, Hex (M8)
6	502-0587	1	Elbow - 90° (3/8" Pipe to 5/8" ID Hose)	16	145-0120	1	Gasket - Lead
7	503-0352	1	Hose (5/8" ID x 20")	17	505-0132	3	Elbow - 90° (3/4")
8	503-0146	1	Hose (5/8" ID x 32")	18	505-0021	2	Bushing, Reducer (3/4" to 1/2")
9	503-1573	1	Hose - LPG (1" ID x 13")	19	505-0135	2	Nipple, Half (3/8" x 1-1/2")
10	503-0183	4	Clamp, Hose	20	502-0971	2	Connector, Hose (3/4")
				21	505-0210	1	Nipple, Pipe (1/2" x 2")
				22	505-0106	1	Nipple, Pipe (1/2" x 1-1/2")

Governor



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	151-0565	1	Control, Governor (A12)	8	821-0016	4	Screw, Locking - Hex Head Flange (5/16-18 x 3/4")
2	815-0652	4	Screw, Slotted - Hex Head (#10-32 x 1/2")	9	150-1923	1	Rod, Control
3	150-1406	1	Sensor, Speed - Magnetic (E6)	10	151-0591	1	Lever, Actuator
4	150-0939	2	Joint, Ball	11	800-0007	1	Screw, Cap - Hex Head (1/4-20 x 1")
5	870-0053	2	Nut, Hex (#10-32)	12	870-0065	1	Nut, Self-Locking (1/4-20)
6	151-0566	1	Actuator, Governor (A14)				
7	870-0131	2	Nut, Hex - With ET (#10-32)				

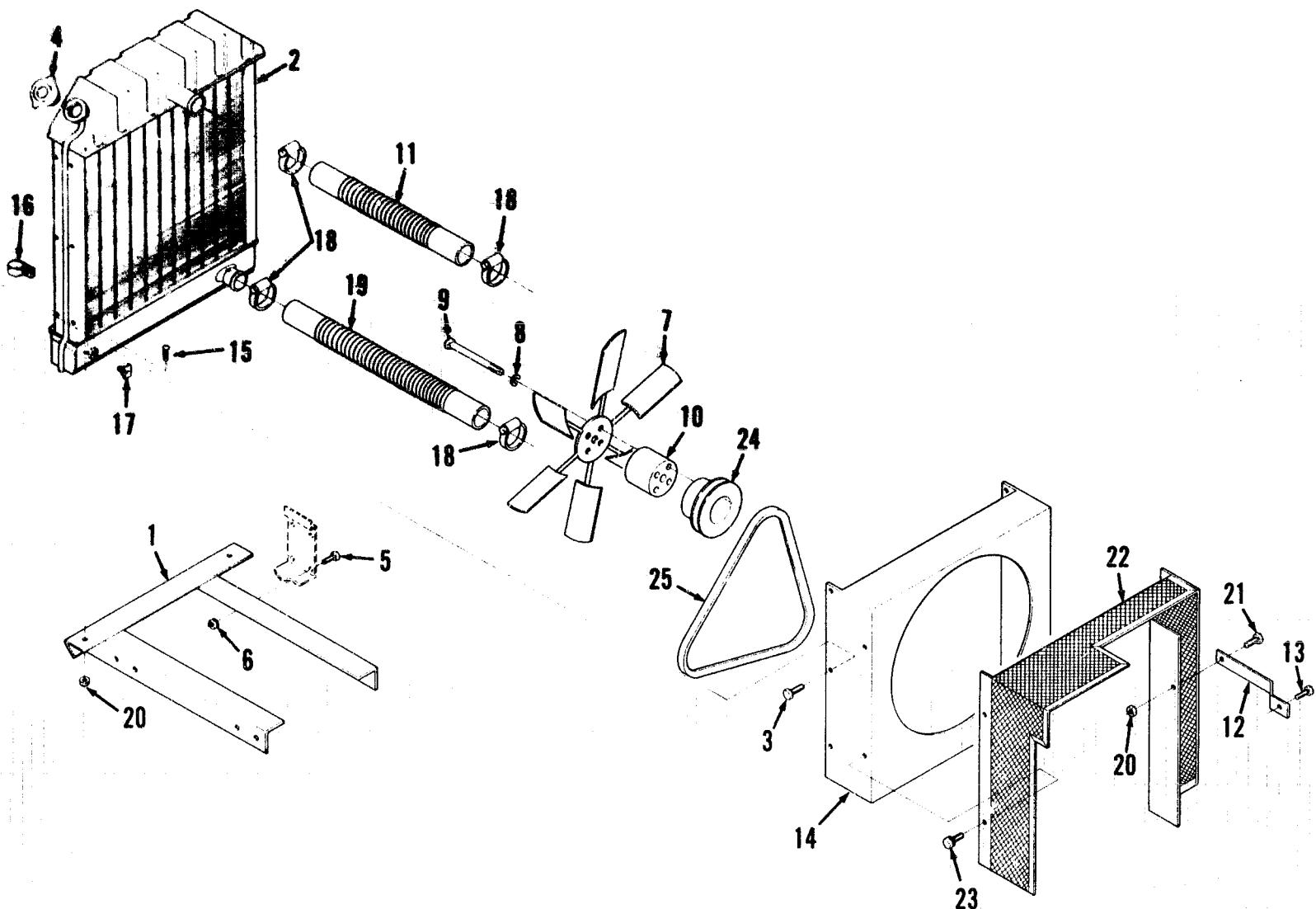
Mounting Hardware



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-1833	1	Bracket, Engine Mount	10	526-0014	4	*Washer, Flat (29/64" ID x 1-1/2" OD x 1/8" Thk)
2	403-3267	1	Bracket, Engine Mount - Upper	11	526-0198	8	*Washer, Flat (5/8" ID x 1-1/2" OD x 1/16" Thk) (Use as required)
3	800-2086	6	Screw, Cap - Hex Head (M10 x 25MM)	12	402-0282	4	*Snubber
4	850-2010	6	Washer, Lock - Spring (M10)	13	402-0290	4	*Bushing, Spacer
5	800-0050	2	Screw, Cap - Hex Head (3/8-16 x 1")	14	526-0195	4	*Washer, Flat (29/64" ID x 3-1/4" OD x 1/8" Thk)
6	870-0281	2	Nut, Self-Locking Hex (3/8-16)	15	800-0082	4	*Screw, Cap - Hex Head (7/16-14 x 3-3/4")
7	402-0327	1	Kit, Mounting Hardware (Hardware Package for 4 Mounts) (Includes Parts Marked *)	16	402-0285	4	Cushion, Vibration Engine End
8	862-0004	4	*Nut, Hex (7/16")		402-0286	4	Generator End
9	850-0055	4	*Washer, Lock - Spring (7/16")				

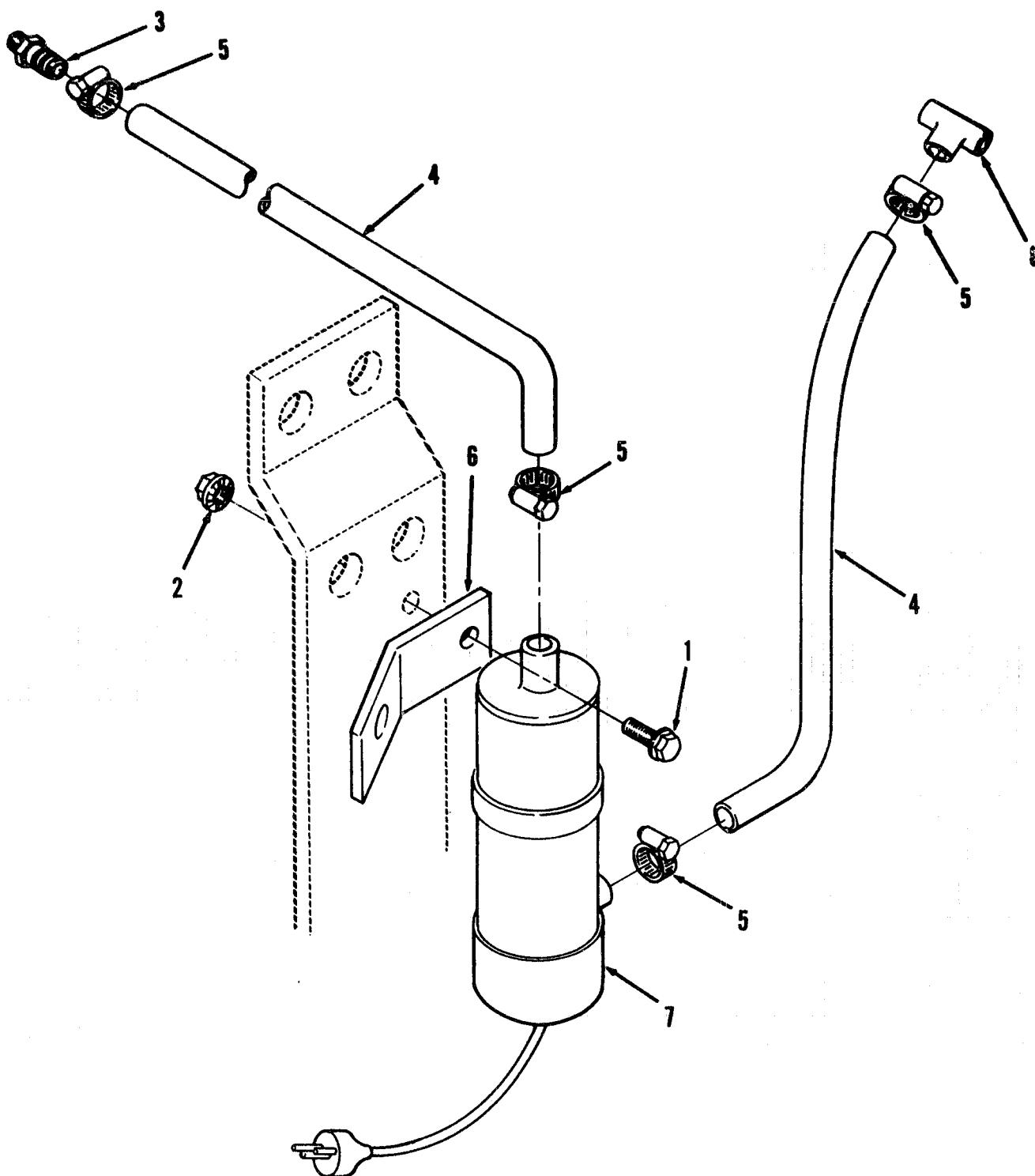
* - Parts Included in 402-0327 Mounting Hardware Kit

Radiator



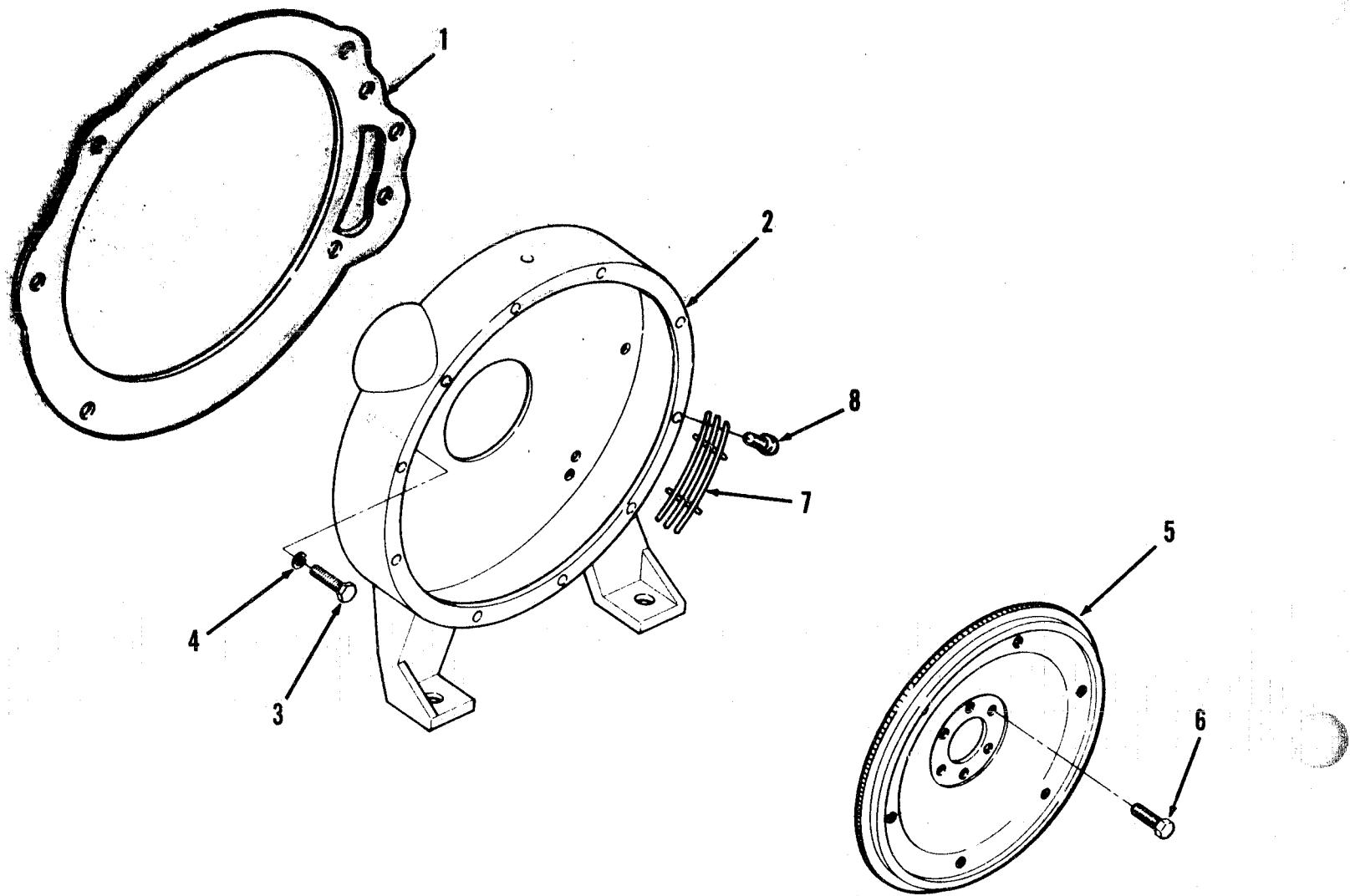
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	130-3025	1	Support, Radiator	13	800-2084	1	Screw, Cap - Hex Head (M10 x 16MM)
2	130-3027	1	Radiator	14	130-1797	1	Shroud, Fan
3	815-0181	6	Screw, Hex Head - Thread Cutting With ET (#10-32 x 1/2")	15	816-0152	2	Bolt, Carriage (3/8-16 x 2")
4	130-1788	1	Cap, Pressure	16	332-0051	2	Clip, Retainer
5	800-0069	4	Screw, Cap - Hex Head (7/16-14 x 3/4")	17	504-0003	1	Cock, Drain
6	870-0437	4	Nut, Locking Head - Flange (7/16-14)	18	503-0429	4	Clamp, Hose
7	130-3079	1	Fan	19	503-0869	1	Hose, Radiator - Lower (20")
8	850-0045	4	Washer, Lock - Spring (5/16")	20	870-0281	3	Nut, Locking Head - Flange (3/8-16)
9	800-2072	4	Screw, Cap - Hex Head (M8 x 100MM)	21	821-0028	1	Screw, Locking - Hex Washer Head (3/8-16 x 1/2")
10	130-2253	1	Spacer, Fan	22	130-1805	1	Guard, Belt
11	503-1058	1	Hose, Radiator - Upper (15-1/2")	23	821-0014	4	Screw, Locking - Hex Washer Head (5/16-18 x 1/2")
12	130-3024	1	Brace, Radiator	24	512-0154	1	Pulley, Fan
				25	511-0112	1	Belt, Fan

Engine Tank Heater



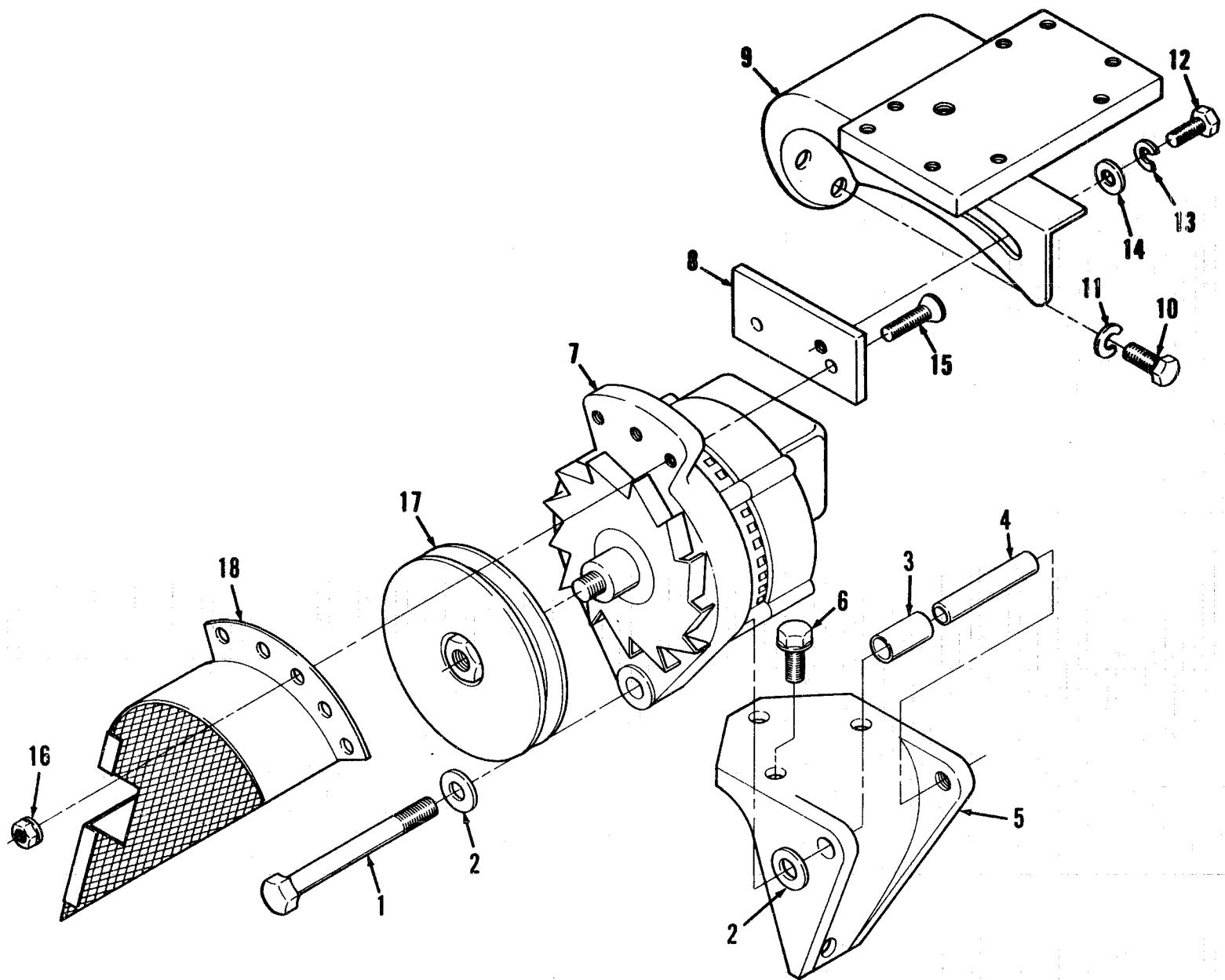
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0018	1	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/8")	6	130-0755	1	Bracket, Mounting
2	870-0212	1	Nut, Self-Locking - Hex Washer Head (1/4-20)	7	333-0203	1	Heater, Tank - 850 Watt, 115 Volt (Includes Hose Connector, Cord and Mounting Strap)
3	502-0613	1	Connector, Hose	8	502-0870	1	Tee, Hose
4	503-1552-01	2	Hose (5/8" ID x 14")				
5	503-0183	6	Clamp, Hose				

Flywheel1



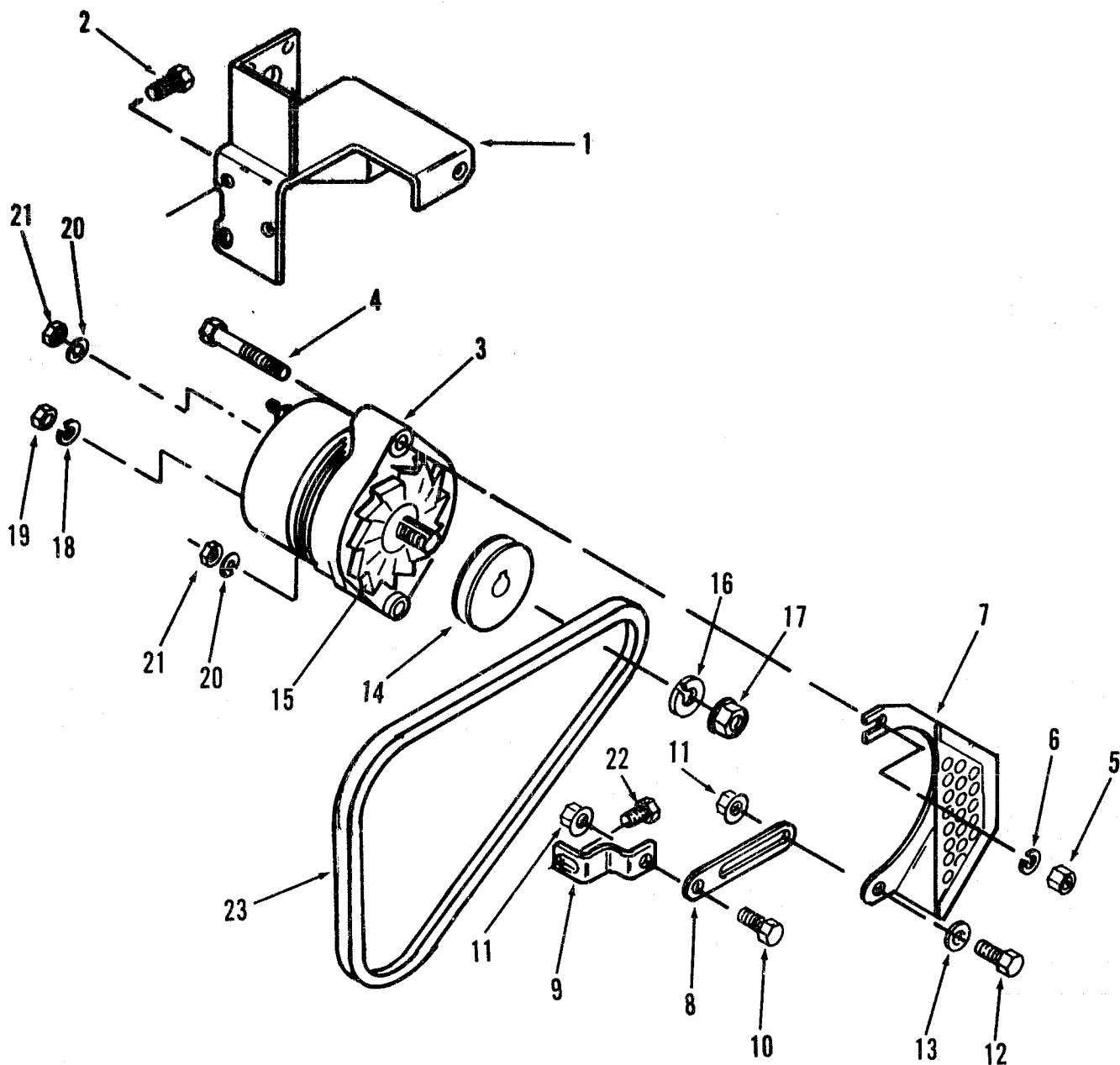
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	403-2173	1	Plate, Rear Engine	5	104-1254	1	Flywheel
2	231-0252	1	Adapter, Generator	6	104-1255	6	Screw, Cap - Hex Head (M10 x 45MM)
3			Screw, Cap - Hex Head 800-2087 1 M10 x 30MM	7	234-0665	1	Grille, Air Outlet
			800-2089 2 M10 x 40MM	8	803-0032	2	Screw, Socket Head (1/4-20 x 1/4")
			800-2091 2 M10 x 50MM				
4	850-2010	5	Washer, Lock - Spring (M10)				

**Alternator
(Spec B)**



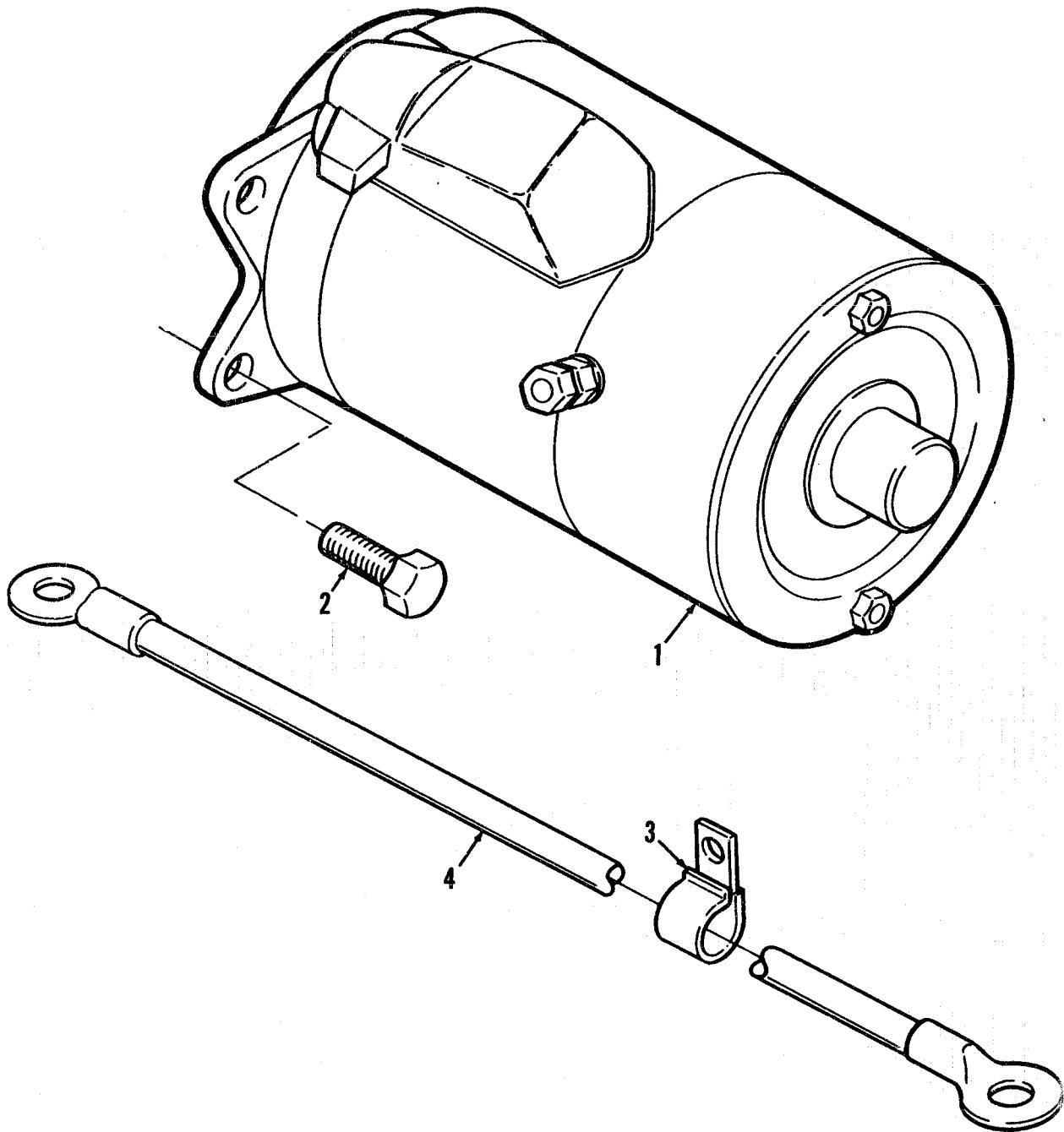
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1373	1	Screw (7/16-14 x 4-1/4")	10	130-1808	3	Screw (M8 x 25MM)
2	526-0032	2	Washer, Flat (7/16")	11	850-2008	3	Washer, Lock - Spring (M8)
3	191-0571	1	Spacer, Alternator Mounting (1-13/16" Long)	12	800-0048	1	Screw, Cap - Hex Head (3/8-16 x 3/4")
4	191-0716	1	Spacer, Alternator Mounting (2-3/4" Long)	13	850-0050	1	Washer, Lock - Spring (3/8")
5	191-1369	1	Bracket, Alternator Mounting	14	526-0030	1	Washer, Flat (3/8")
6	191-1371	3	Screw, Self-Locking - Hex Head Flange (M10 x 30MM)	15	814-2121	2	Screw, Machine - Countersunk Flat Head (M8 x 30MM)
7	191-1872	1	Alternator (12 VDC) (G1)	16	870-2055	2	Nut, Locking - Flange (M8)
8	191-1375	1	Spacer, Alternator Mounting	17	191-1387	1	Pulley, Alternator
9	191-1368	1	Arm, Alternator Adjusting	18	191-1361	1	Guard, Alternator Belt

**Alternator
(Spec C-E)**



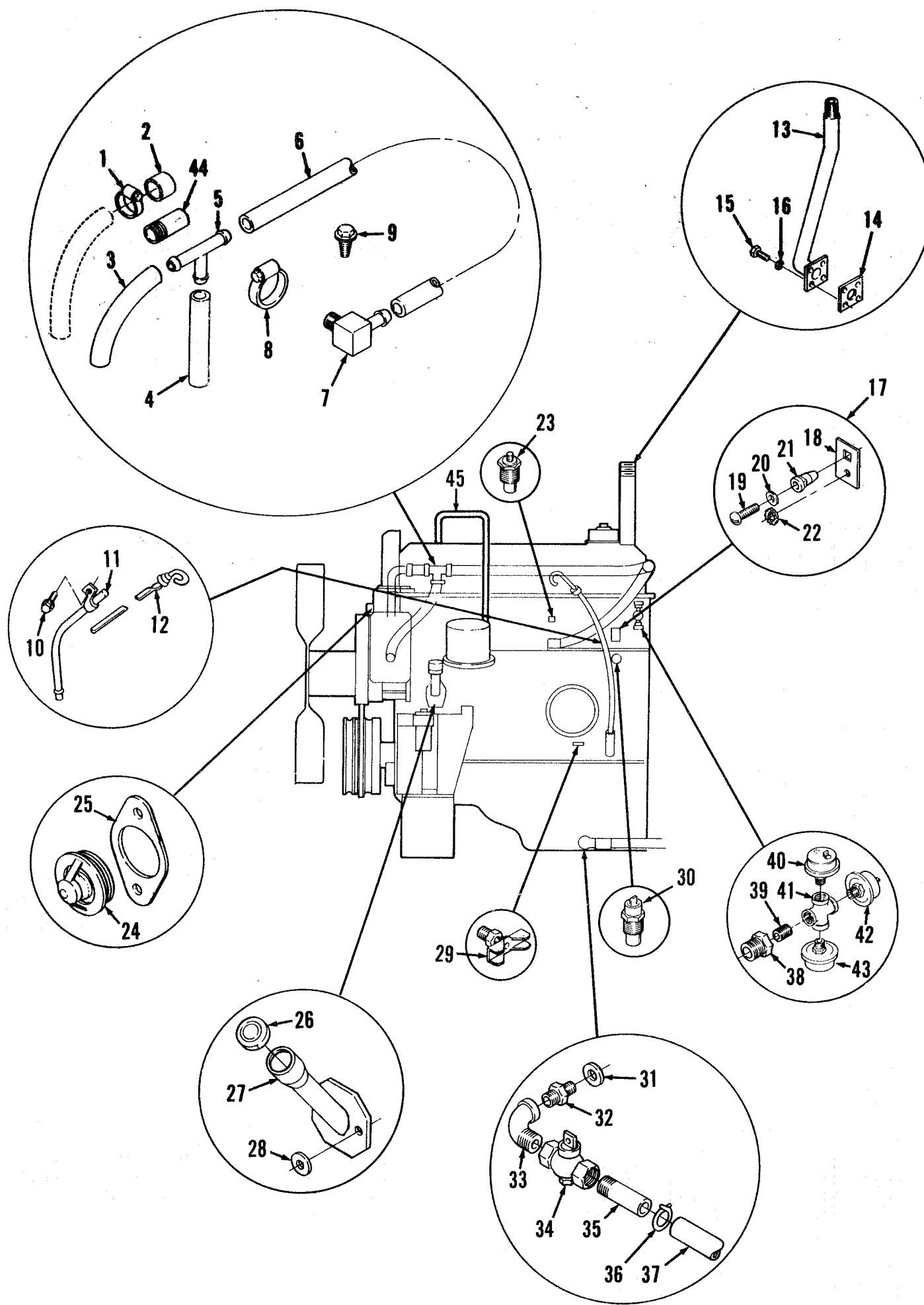
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	150-2512	1	Bracket	12	800-2060	1	Screw, Cap - Hex Head (M8 x 1.25 x 35)
2	130-1808	3	Screw, (M8 x 25mm)	13	526-2106	1	Washer, Flat (M8)
3	191-1983-01	1	Alternator	14	191-2032	1	Pulley, Alternator
4	800-2096	1	Screw, Cap - Hex Head (M10 x 1.5 x 75)	15	191-1981	1	Fan, Alternator
5	860-2009	1	Nut (M10 x 1.5)	16	851-0039	1	Washer, Spring
6	850-2010	1	Lockwasher (M10)	17	870-2161	1	Nut, Hex (M16)
7	191-2086	1	Guard	18	850-2008	1	Washer, Lock (M8)
8	191-2085	1	Strap, Alternator Adjust	19	860-2008	1	Nut, Hex (M5)
9	191-2084	1	Bracket, Adjusting	20	850-2005	2	Washer, Lock (M5)
10	800-2058	2	Screw, Hex Head (M8 x 1.25 x 25)	21	860-2006	2	Nut, Hex (M5)
11	870-2055	2	Nut, Lock Flange (M8 x 1.25)	22	800-2085	1	Screw, (M10 x 1.5 x 20)
				23	512-0154	1	Belt Fan

Starter



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	191-1370	1	Starter (12 VDC) (B1) Spec B-D	3	332-2634	1	Clamp, "J"
	191-2115	1	Spec E	4	226-3462-01	1	Lead (38") Starter to Relay
2	191-1374	3	Screw, Cap - Hex Head (M10 x 25MM)		226-3462-02	1	Spec B-D Spec E

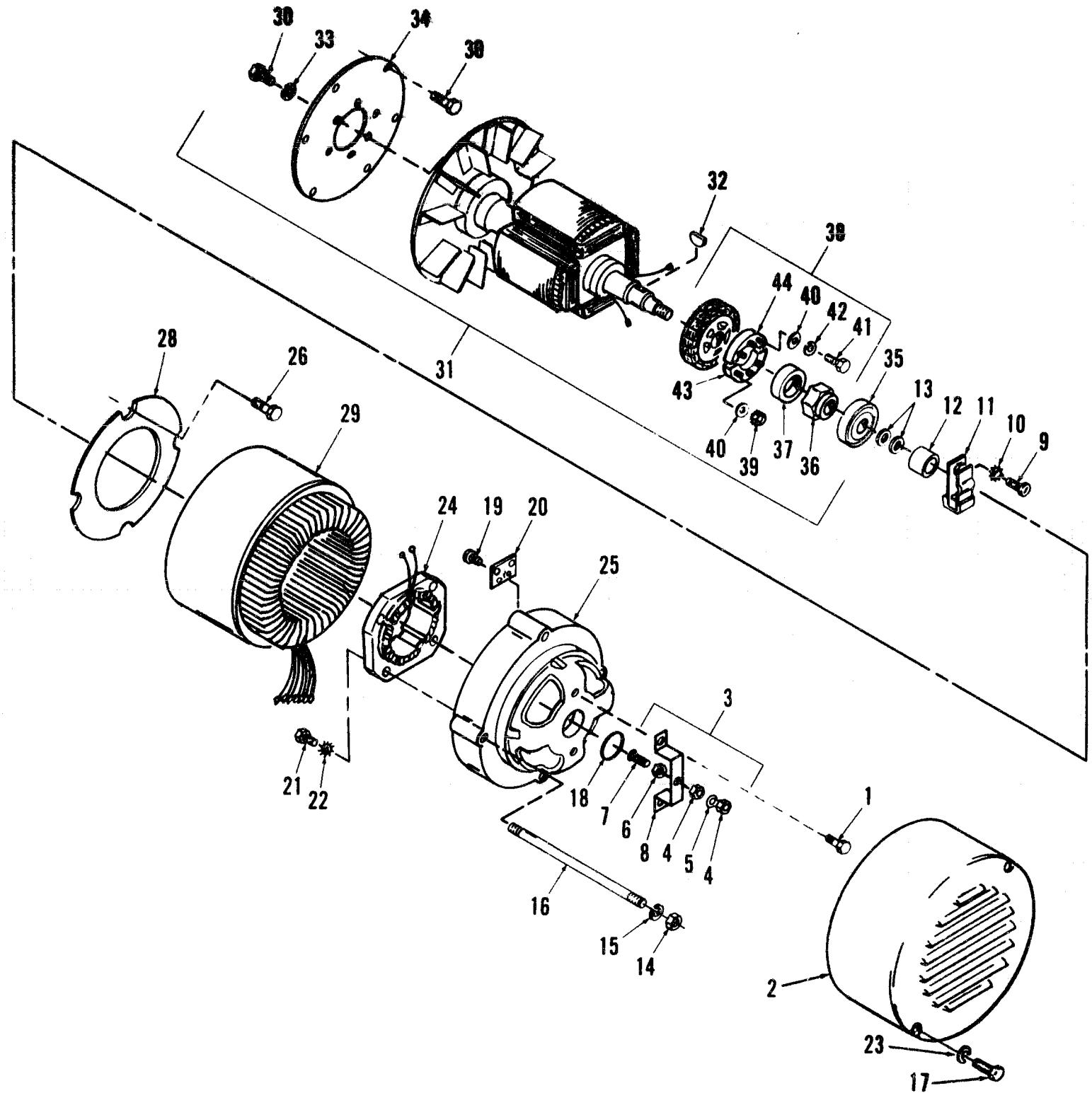
Miscellaneous Engine Parts



Miscellaneous Engine Parts

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	503-0183	1	*Clamp, Hose	26	123-1787	1	*Cap, Oil Fill
2	132-0222	1	*Cap, Water Outlet Tube	27	123-1786	1	*Tube, Oil Fill
3	503-1250	1	#Hose, Water Bypass (5/8" ID)	28	526-0122	2	*Washer, Flat (5/16")
4	503-1251	1	#Hose, Water Bypass (5/8" ID)	29	504-0133	1	Petcock (Mounted on Left Side of Engine)
5	502-0868	1	#Tee (3/8" x 5/8" x 5/8")	30	309-0437	1	Switch, Thermostat (S1)
6	503-1062	1	#Hose - Intake Manifold to Water Pump (3/8" ID)	31	102-1281	1	Gasket, Oil Drain
7	502-0869	1	#Connector (3/8")	32	102-1054	1	Adapter, Oil Drain
8	503-1061	8	#Clamp, Hose	33	505-0050	1	Elbow, Oil Drain (90° x 1/2")
9	503-1064	1	Screw, Self Tapping (#8-18 x 1/2")	34	504-0011	1	Valve, Shutoff
10	123-1535	1	Screw, Self-Locking - Hex Head Flange (M8 x 19MM)	35	505-0106	1	Nipple, Half (1/2" x 1-1/2")
11	123-1534	1	Tube, Oil Level	36	503-0197	1	Clamp, Hose
12	123-1533	1	Indicator, Oil Level	37	503-0808	1	Hose, Drain (14")
13	155-2076	1	Pipe, Exhaust	38	505-0007	1	Bushing, Reducer (1/4" to 1/8")
14	155-2073	1	Gasket, Exhaust Pipe	39	505-0098	1	Nipple, Short (1/8" x 3/4")
15	800-2085	4	Screw, Cap - Hex Head (M10 x 20MM)	40	309-0272	1	Switch, Low Oil Pressure (Closes at 20 lbs. Descending) (S2)
16	850-2010	4	Washer, Lock - Spring (M10)	41	505-0763	1	Crosspipe (1/8")
17	332-1292	1	Bracket Assembly, Terminal (#26) (Includes Parts Marked +)	42	309-0104	1	Switch, Low Oil Pressure (Closes at 5 lbs. Descending) (S2)
18	332-1281	1	+Bracket, Terminal	43	193-0244	1	Sender, Oil Pressure (E1)
19	809-0035	1	+Screw, Sheet Metal - Round Head (#8 x 3/4")	44	505-0135	1	*Nipple, Half (3/8" x 1-1/2")
20	508-0015	1	+Washer, Fiber	45	503-1262	1	Hose (5/16" ID x 38")
21	870-0196	1	+Nut, Insulation				* - Parts used with LPG vapor fuel system.
22	856-0008	1	Washer, Lock - EIT (5/16")				# - Parts used with gasoline fuel system.
23	193-0318	1	Sender, Water Temperature (E2				+ - Parts Included in 332-1292 Terminal Bracket Assembly.
24	309-0509	1	Thermostat (170°)				
25	130-2307	1	Gasket, Water Outlet Elbow				

Generator



Generator

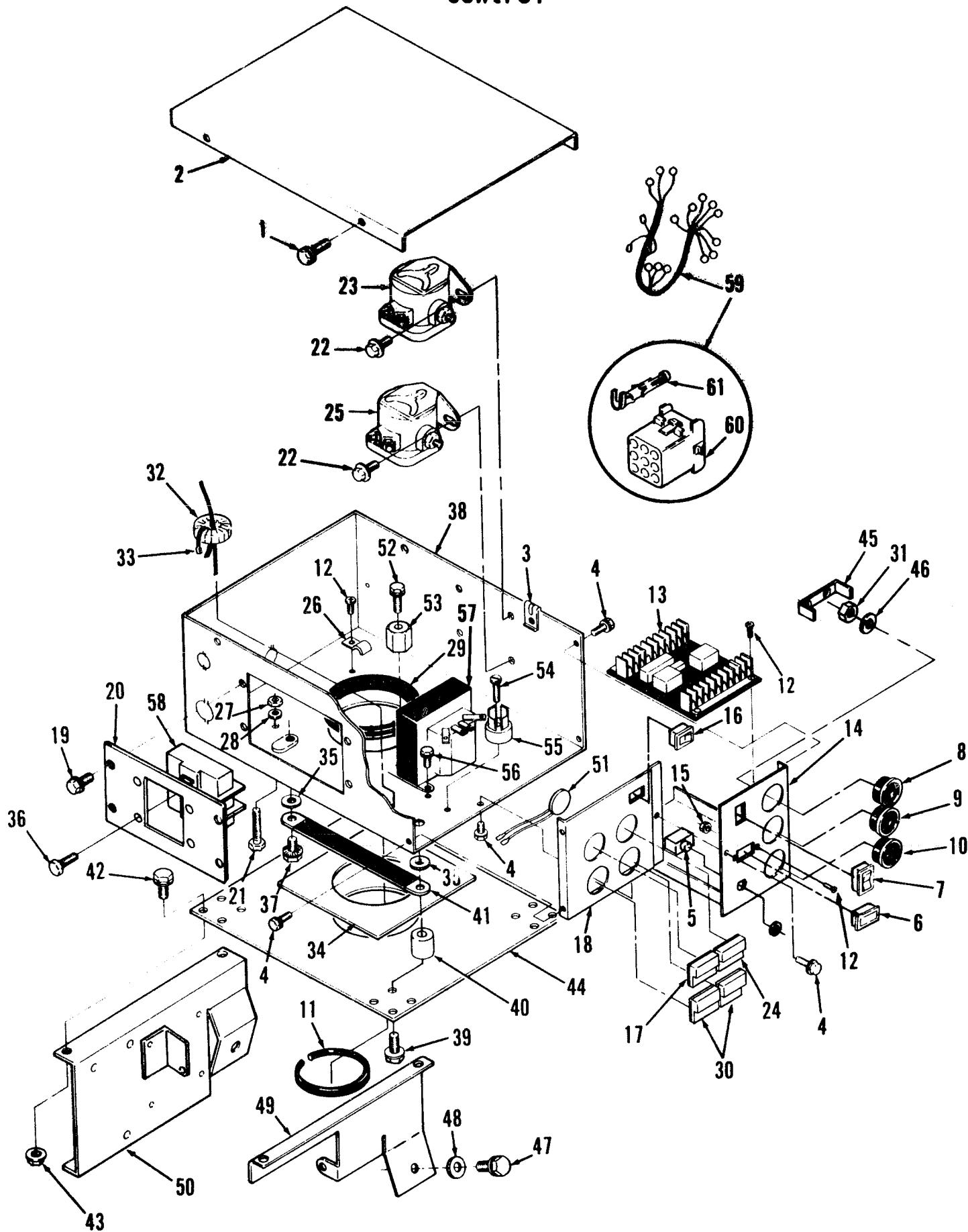
REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0010	2	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")	22	850-0040	4	Washer, Lock - Spring (1/4")
2	234-0498	1	Cover, End Bell	23	850-0040	2	Washer, Lock - Spring (1/4")
3	150-1446	1	Bracket and Point Assembly (Includes Parts Marked *)	24	220-2009	1	Stator, Exciter
4	862-0001	2	*Nut, Hex (1/4-20)	25	211-0256	1	Bell, End
5	853-0013	1	*Washer, Lock - ET (1/4")	26	821-0010	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
6	870-0250	1	*Nut, Insulating	28	234-0519	1	Baffle, Air
7	150-0723	1	*Point, Contact	29	220-3794	1	Stator, Generator
8	150-1445	1	*Bracket, Mounting	30	805-0015	12	Bolt, Place (3/8-16 x 3/4")
9	800-0051	1	Screw, Cap - Hex Head (3/8-16 x 1-1/4")	31	201-2937	1	Rotor Assembly, Generator (Includes Parts Marked #)
10	856-0010	1	Washer, Lock - EIT (3/8")	32	515-0094	1	#Key - Excitor Rotor
11	150-0717	1	Switch, Overspeed (S3)	33	526-1030	6	#Washer, Flat (3/8")
12	150-1735	1	Spacer, Overspeed Switch	34	232-2826	1	#Disk, Drive
13	526-0029	2	Washer, Flat (3/8") (Quantity as required)	35	510-0112	1	#Bearing, Ball
14	862-0011	4	Nut, Hex (3/8-16)	37	232-2398	1	#Nut, Self-Locking - Hex (1-1/8-12)
15	850-0050	4	Washer, Lock - Spring (3/8")	38	201-2151	1	#Spacer, Bearing
16	520-0799	4	Stud (3/8-16 x 11-3/8")	39	870-0131	1	#Rotor Assembly, Excitor (Includes Parts Marked +)
17	812-0167	2	Screw, Machine - Round Head (1/4-20 x 6")	40	526-0008	8	+Nut, Self-Locking - Hex with ET Lockwasher (#10-32)
18	509-0094	1	Seal, "O" Ring	41	813-0100	12	+Washer, Flat (#10)
19	815-0194	2	Screw, Tapping - Hex Head With ET Lockwasher (#10-32 x 3/8")	42	853-0008	4	+Screw, Machine - Round Head (#10-32 x 1/2")
20	232-2418	1	Board, Connection	43	358-0070	1	+Washer, Lock - ET (#10)
21	802-0038	4	Screw, Cap - Socket Head (1/4-20 x 1-1/2")	44	358-0069	1	+Rectifier Assembly - Negative
							+Rectifier Assembly - Positive

* - Parts Included in 150-1446 Bracket and Point Assembly.

- Parts Included in 201-2937 Generator Rotor Assembly.

+ - Parts Included in 201-2151 Excitor Rotor Assembly.

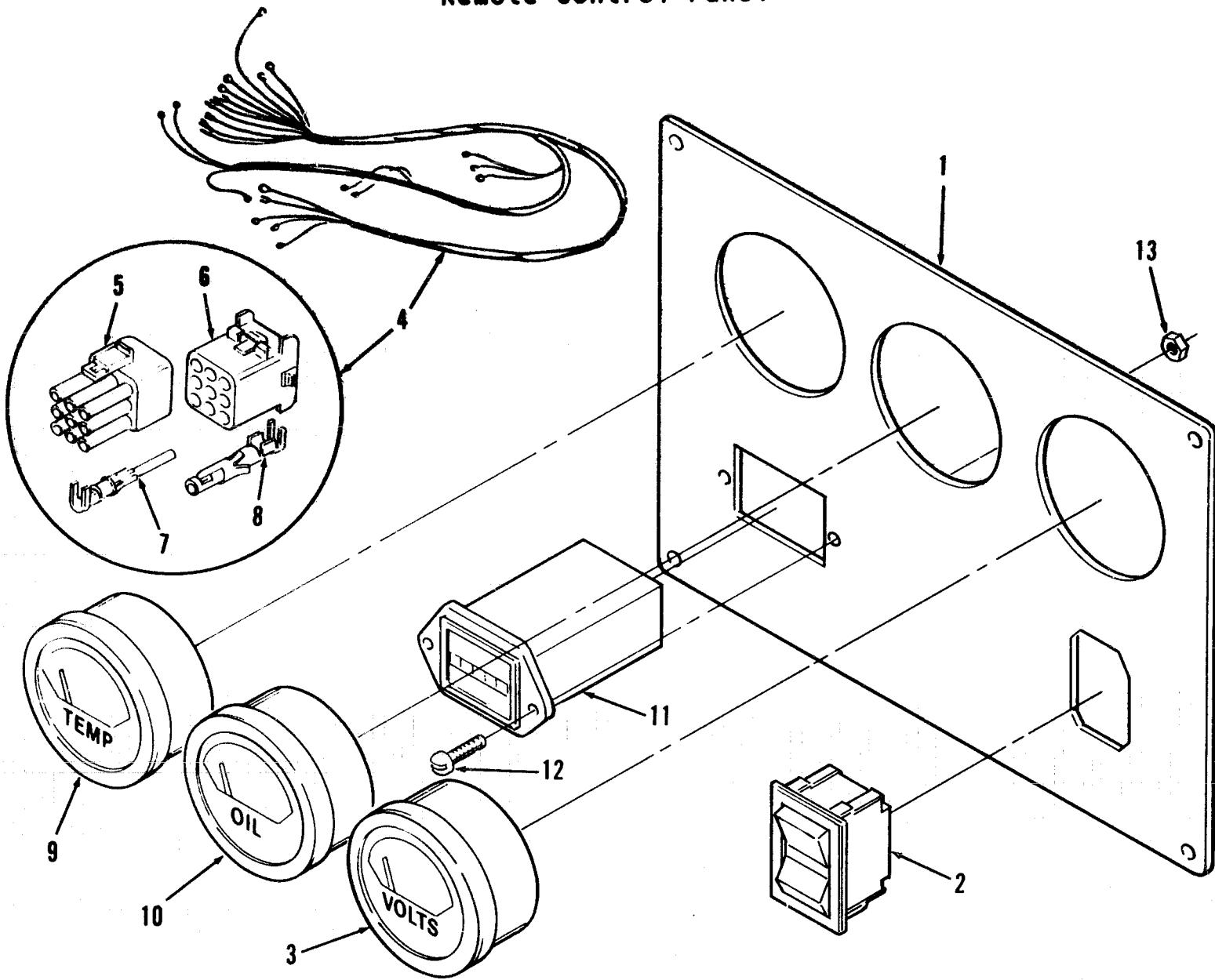
Control



Control

REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	821-0005	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 1/2")	38	301-7807	1	Box, Control
2	301-7983	1	Cover, Control	39	821-0014	4	Screw, Locking Head - Flange (5/16-18 x 1/2")
3	870-0398	4	Nut, Retaining (#10-32)	40	402-0527	4	Dampener, Vibration
4	821-0004	5	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")	41	337-0049	1	Strap, Ground - Control
5	320-1139	1	Breaker, Circuit (CB12)	42	821-0010	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 1/2")
6	302-0885	1	Meter, Time Totalizing (M11)	43	870-0212	4	Nut, Self-Locking - Hex Washer Head (1/4-20)
7	308-0739	1	Switch, Rocker (S11)	44	301-7685	1	Plate, Mounting - Control
8	193-0352	1	#Gauge, Oil Pressure (M12)	45	302-0270	3	#Clamp, Gauge Mounting
9	193-0351	1	#Gauge, Coolant Temperature (M13)	46	526-0049	18	#Washer, Flat (13/64" ID x 7/16" OD x 1/32" Thick)
10	302-1641	1	#Voltmeter - DC (M14)	47	815-0236	2	Screw, Tapping - Hex Head (5/16-18 x 5/8")
11	508-1043	1	Edging (19-1/2")	48	856-1008	2	Washer, Lock - EIT (5/16")
12	815-0544	7	Screw, Machine - Round Head, Cross Recessed, with IT Lockwasher (#6-32 x 1/2")	49	301-7699	1	Bracket, Mounting - Left Hand
13	300-2604	1	Monitor, Engine (A11)	50	301-9784	1	Bracket, Mounting - Right Hand
14	319-0087	1	Face, Control - With Tray Generator Sets with Remote Mounted DC Gauges	51	305-0703	1	Suppressor, Voltage (RV21)
	301-7686	1	# Generator Sets with Control Mounted DC Gauges	52	821-0008	4	Screw, Self-Locking - Hex Washer Head (1/4-20 x 5/16")
15	870-0183	2	Nut, Hex - With ET Lock Washer (#6-32)	53	332-2370	2	Standoff, Insulator (TB1, TB2)
16	320-1140	1	Breaker, Circuit (CB11)	54	815-0346	1	Screw, Machine - Round Head, Brass with ET Lockwasher (#10-32 x 5/8")
17	302-1175	1	*Voltmeter - AC (M21)	55	305-0696	1	Bridge, Rectifier (CR21)
18	301-7951	1	Face, Control Controls Without AC Meters	56	821-0004	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")
	301-9790	1	* Controls With AC Meters	57	315-0651	1	Transformer, Voltage Regulating (T21)
19	821-0004	4	Screw, Self-Locking - Hex Washer Head (#10-32 x 5/16")	58	320-1207	1	Breaker, Circuit (CB22) 100 Amp, 240 Volt AC
20	301-7684	1	Plate, Cover - Access Controls without AC Breaker	59	338-2048-01	1	Harness, Wiring * Rectifier Bridge and AC Voltmeter to Exciter Field, Current Transformer, Frequency Meter and Insulator Standoffs
	301-7944	1	Controls with AC Breaker				Rectifier Bridge to Exciter Field and Current Transformer
21	821-0012	2	Screw, Cap - Hex Washer Head (1/4-20 x 1-1/4") Ground Stud		338-2048-02	1	Control Box # Generator Sets with Control Mounted DC Gauges
22	821-0008	4	Screw, Cap - Hex Washer Head (1/4-20 x 5/16")		338-1675-04	1	Generator Sets with Remote Mounted DC Gauges
23	307-1166	1	Relay, Solenoid - Start (K11)		338-1675-06	1	Remote Control Connection (20") (Includes Parts Marked +)
24	302-1720	1	*Meter, Frequency - AC (M22)		338-2184	1	Engine to Control (Spec B)
25	307-1031	1	Relay, Solenoid - Pilot (K13)		338-2757	1	Engine to Control (Spec C,D)
26	518-0437	1	Clip, Holddown		338-2798	1	Engine to Control (Spec E)
27	871-0016	4	Nut, Hex - Brass (1/4-20) Ground Stud		338-2047	1	+Cap, Connector (9 Place) (J1)
28	853-0013	2	Washer, Lock - ET (1/4") Ground Stud		60	323-1325	1
29	508-0115	1	Grommet - 2-1/2" Hole		338-2047	1	+Socket, Female
30	302-1468	2	*Ammeter - AC (M23, M24)		61	323-1200	7
31	871-0010	9	#Nut, Hex - Brass (#10-32)				# - Parts Used on Generator Sets with Control Mounted DC Gauges
32	302-0076	2	*Transformer, Current (CT21, CT22)				* - Parts Used on Controls with AC Meters
33	332-0941	2	*Tie, Cable				+ - Parts Included in 338-2184 Wiring Harness
34	405-3156	2	Insulation				
35	856-0008	2	Washer, Lock - EIT (5/16")				
36	812-0061	4	Screw, Machine - Round Head (#6-32 x 3/8")				
37	821-0014	1	Screw, Locking Head - Flange (5/16-18 x 1/2")				

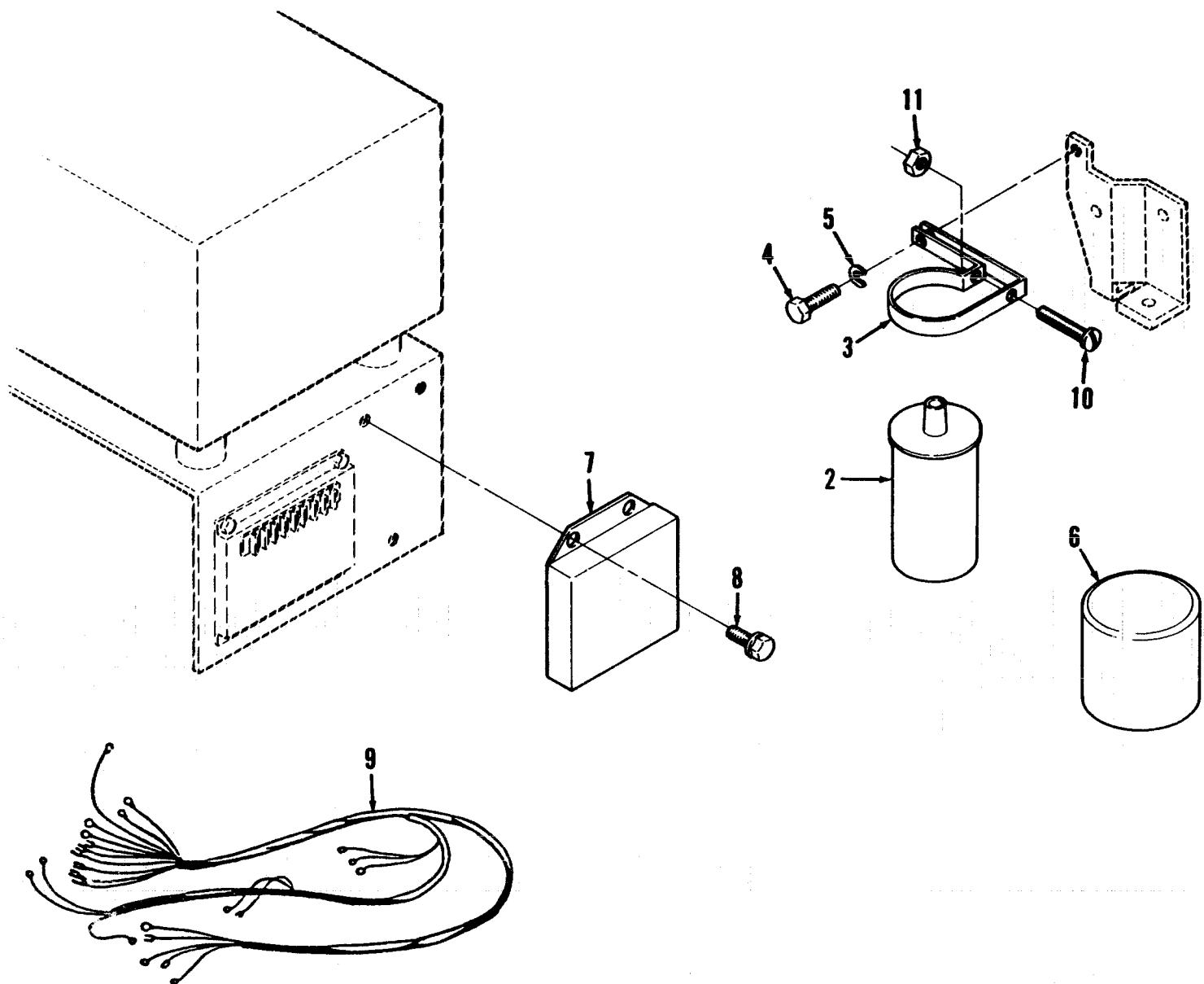
Remote Control Panel



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
	300-3200	1	Panel Assembly, Remote Control - Complete (Includes Parts Marked +)	7	323-1199	7+*#Pin, Male (Fifteen and twenty-five foot long remote control to generator set wiring harnesses use a quantity of 8)	
1	319-0071	1	+Panel, Control	8	323-1200	7+*#Socket, Female (Fifteen and twenty-five foot long remote control to generator set wiring harnesses use a quantity of 8)	
2	308-0827	1	+Switch, Rocker (S11)				
3	302-1641	1	+Voltmeter - DC (M14) Includes Mounting Hardware Harness, Wiring				
4	338-2185	1	+ Remote Control Panel (Includes Parts Marked *) Remote Control to Generator Set	9	193-0319	1	+Gauge, Coolant Temperature (M13) Includes Mounting Hardware
	338-2321	1	One Foot (Includes Parts Marked #)	10	193-0320	1	+Gauge, Oil Pressure (M12) Includes Mounting Hardware
	338-2237	1	Fifteen Foot (Includes Parts Marked @)	11	302-0885	1	+Meter, Time Totalizing (M11)
	338-2238	1	Twenty-Five Foot (Includes Parts Marked @@)	12	815-0385	2	+Screw, Machine - Round Head (#6-32 x 1/2")
5	323-1291	1	+*#Plug, Connector (9 Place) (P1)	13	870-0183	2	+Nut, Hex - With ET (#6-32)
6	323-1325	1	*#Cap, Connector (9 Place) (J1)				

+ - Parts Included in 300-3200 Remote Control Panel Assembly
 * - Parts Included in 338-2185 Wiring Harness
 # - Parts Included in 338-2321 Wiring Harness
 @ - Parts Included in 338-2237 and 338-2238 Wiring Harnesses

Ignition



REF NO.	PART NO.	QTY USED	PART DESCRIPTION	REF NO.	PART NO.	QTY USED	PART DESCRIPTION
1	166-0733	1	Suppressor, Ignition Coil (Not Illustrated)	7	166-0731	1	Module, Ignition (A13)
2	166-0730	1	Coil, Ignition (T1)	8	821-0010	3	Screw, Self-Locking - Hex Head Flange (1/4-20 x 1/2")
3	166-0734	1	Strap, Ignition Coil	9	166-0728	1	Harness, Wiring - Ignition Module
4	800-2093	1	Screw, Cap - Hex Head (M10 x 60MM)	10	166-0735	1	Screw, Machine - Round Head (#10-32 x 1-5/8")
5	850-2010	1	Washer, Lock - Spring (M10)	11	166-0736	1	Nut, Hex (#10-32)
6	166-0729	1	Shield, Dust - Distributor				

Numerical Index

Part No.	Page						
102-1054	15	150-0717	17	220-2009	17	323-1200	19
102-1281	15	150-0723	17	220-3794	17	323-1200	20
104-1254	10	150-0939	6	226-3462-01	13	323-1291	20
104-1255	10	150-1406	6	226-3462-02	13	323-1325	19
123-1533	15	150-1445	17	231-0252	10	323-1325	20
123-1534	15	150-1446	17	232-2398	17	332-0051	8
123-1535	15	150-1735	17	232-2418	17	332-0941	5
123-1786	15	150-1923	6	232-2826	17	332-0941	19
123-1787	15	150-2512	12	234-0498	17	332-1281	15
130-0755	9	151-0565	6	234-0519	17	332-1292	15
130-1788	8	151-0566	6	234-0665	10	332-2370	19
130-1797	8	151-0591	6	300-2604	19	332-2634	13
130-1805	8	155-2073	15	300-3200	20	333-0203	9
130-1808	11	155-2076	15	301-7684	19	337-0049	19
130-1808	12	166-0728	21	301-7685	19	338-1675-04	19
130-2253	8	166-0729	21	301-7686	19	338-1675-06	19
130-2307	15	166-0730	21	301-7699	19	338-2047	19
130-3024	8	166-0731	21	301-7807	19	338-2048-01	19
130-3025	8	166-0733	21	301-7944	19	338-2048-02	19
130-3027	8	166-0734	21	301-7951	19	338-2184	19
130-3079	8	166-0735	21	301-7983	19	338-2185	20
132-0222	15	166-0736	21	301-9784	19	338-2237	20
140-0721	3	191-0571	11	301-9790	19	338-2238	20
140-0722	3	191-0716	11	302-0076	19	338-2321	20
140-0765	3	191-1361	11	302-0270	19	338-2757	19
140-1283	3	191-1368	11	302-0885	19	338-2798	19
140-1436	3	191-1369	11	302-0885	20	358-0059	17
140-1437	3	191-1370	13	302-1175	19	358-0070	17
140-1438	3	191-1371	11	302-1468	19	402-0282	7
140-1439	3	191-1373	11	302-1641	19	402-0285	7
140-1756	3	191-1374	13	302-1641	20	402-0286	7
140-2124	3	191-1375	11	302-1720	19	402-0290	7
140-2190	3	191-1387	11	305-0696	19	402-0327	7
141-0905	4	191-1872	11	305-0703	19	402-0527	19
141-0906	4	191-1981	12	307-0268	5	403-1833	7
141-0908	4	191-1983-01	12	307-1031	19	403-2173	10
141-0909	4	191-2032	12	307-1166	19	403-3267	7
141-0910	4	191-2084	12	308-0739	19	405-3156	19
141-0911	4	191-2085	12	308-0827	20	502-0018	4
141-0916	4	191-2086	12	309-0104	15	502-0047	5
141-0951	4	191-2115	13	309-0272	15	502-0054	5
141-0953	4	193-0244	15	309-0437	15	502-0587	5
145-0120	4	193-0318	15	309-0509	15	502-0613	9
145-0120	5	193-0319	20	315-0651	19	502-0868	15
145-0544	4	193-0320	20	319-0071	20	502-0869	15
148-0737	5	193-0351	19	319-0087	19	502-0870	9
148-0902	5	193-0352	19	320-1139	19	502-0971	5
149-1774	4	201-2151	17	320-1140	19	503-0146	5
149-1775	4	201-2937	17	320-1207	19	503-0183	5
149-1776	4	211-0256	17	323-1199	20	503-0183	9

Numerical Index

Part No.	Page						
503-0183	15	526-0029	17	821-0004	19	870-0183	20
503-0197	15	526-0030	11	821-0005	19	870-0196	15
503-0352	5	526-0032	11	821-0008	19	870-0212	9
503-0365	3	526-0049	19	821-0010	17	870-0212	19
503-0398	5	526-0122	15	821-0010	19	870-0250	17
503-0419	3	526-0195	7	821-0010	21	870-0281	7
503-0429	8	526-0198	7	821-0012	19	870-0281	8
503-0465	3	526-1030	17	821-0014	8	870-0284	17
503-0685	4	526-2100	4	821-0014	19	870-0398	19
503-0808	15	526-2100	5	821-0016	6	870-0437	8
503-0869	8	526-2106	12	821-0018	9	870-2055	11
503-0883	4	800-0007	6	821-0028	8	870-2055	12
503-1058	8	800-0026	3	850-0040	17	870-2161	12
503-1061	15	800-0048	11	850-0045	8	871-0010	19
503-1062	15	800-0050	7	850-0046	3	871-0016	19
503-1064	15	800-0051	17	850-0050	11		
503-1074	3	800-0069	8	850-0050	17		
503-1250	15	800-0082	7	850-0055	7		
503-1251	15	800-2058	12	850-2005	12		
503-1262	15	800-2060	12	850-2008	11		
503-1552-01	9	800-2072	8	850-2008	12		
503-1573	5	800-2084	8	850-2010	3		
504-0003	8	800-2085	3	850-2010	7		
504-0011	15	800-2085	12	850-2010	10		
504-0133	15	800-2085	15	850-2010	12		
505-0007	15	800-2086	7	850-2010	15		
505-0021	5	800-2087	10	850-2010	21		
505-0050	15	800-2089	10	851-0039	12		
505-0085	5	800-2091	10	853-0008	17		
505-0098	15	800-2093	21	853-0013	17		
505-0106	5	800-2096	12	853-0013	19		
505-0106	15	802-0038	17	856-0008	15		
505-0132	5	803-0032	10	856-0008	19		
505-0135	5	805-0015	17	856-0010	17		
505-0135	15	809-0035	15	856-1008	19		
505-0210	5	812-0061	19	860-2006	12		
505-0763	15	812-0153	3	860-2008	4		
508-0015	15	812-0167	17	860-2008	5		
508-0115	19	813-0096	4	860-2008	12		
508-1043	19	813-0100	17	860-2009	12		
509-0094	17	814-2121	11	861-0011	3		
510-0112	17	815-0103	4	862-0001	17		
511-0112	8	815-0181	8	862-0004	7		
512-0154	8	815-0194	17	862-0011	17		
512-0154	12	815-0236	19	862-0015	3		
515-0094	17	815-0346	19	870-0053	6		
518-0437	19	815-0385	20	870-0065	6		
520-0799	17	815-0544	19	870-0131	6		
526-0008	17	815-0652	6	870-0131	17		
526-0014	7	816-0152	8	870-0183	19		